ATTACHMENTS ACROSS THE LIFE SPAN*

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"ATTACHMENT behaviour is held to characterize human beings from the cradle to the grave" Bowlby wrote in 1977.[1] He prefaced this statement by saying:

> . . . attachment behaviour is conceived as any form of behaviour that results in a person attempting or retaining proximity to some other differentiated and preferred individual, who is usually conceived as stronger and/or wiser. Although it is most frequently and intensely displayed by infants and young children, it continues to be manifested throughout life, especially when distressed, ill, or afraid.

In this second paper it is my intention to tell you of further research that considers developmental changes in the way in which a child's attachment to parents manifests itself beyond the infancy period, and which supports Bowlby's view that one's attachment to parents tends to persist throughout life rather than attenuating and eventually disappearing—as many believe—and to consider the likelihood that other types of later affectional bonds may be characterized either as having attachment components or at least meeting some of the criteria that distinguish attachments from other bonds.

ATTACHMENT OF CHILD TO PARENTS BEYOND INFANCY

Although the empirical research available to Bowlby in 1969[2] focused on infancy and was ploughed back into his descriptions of the first three phases of development of an infant's attachment to its mother, he suggested that there was a fourth phase, beginning possibly as early as a child's third birthday, that could substantially change the character of the attachment. Certain cognitive acquisitions were proposed as focal in this development. First, the child begins to lose what Piaget[3] called "egocentrism," and to gain the capacity to perceive things from another's viewpoint so that he could go be-

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yond merely anticipating what his mother's behavior might be in a given situation to understanding something of her own viewpoint, motivations and plans. Second, this enabled him to forward his own plans by attempting to change his mother's plans, whereas previously he could do little more than adjust his behavior to hers. When he had earlier been successful in influencing her behavior, it was more because his primitive communications induced her to respond as he wished, and not because he had any idea of what lay behind her initial decision to behave otherwise. Third, both of these advances were enormously facilitated by the child's increased ability both to understand what his mother told him that might throw light on what she had in mind in pursuing a course of action, and to communicate to his mother what he had in mind in pursuing his. Such an improvement in communication not only facilitated their mutual understanding of each other's viewpoints, but also made it possible for them to negotiate differences when these occurred. The essential features of this fourth phase of attachment development—which Bowlby called a "goal-corrected partnership"—were said to characterize all future attachment relationships.

While other attachment researchers focused on infancy, one, Robert Marvin,[4,5,6] followed up Bowlby's hypotheses. Using perspective-taking tasks much simpler than Piaget's,[7] Marvin demonstrated that children tend to become capable of simple conceptual perspective-taking between their third and fourth birthdays. This he linked to striking changes in strange-situation behavior. Whereas two-year-olds resembled one-year-olds in their responses to separation and reunion, except for less contact seeking, and whereas three-year-olds showed less separation distress and less proximity-seeking upon reunion than did one-year-olds, four-year-olds ordinarily did not seem to mind the brief separations in the strange situation and upon reunion tended merely to establish cheerful interaction, without need to seek closer proximity, let alone bodily contact. There were some exceptions among the four-year-olds, however. Some challenged the mother's departure, attempting to accompany her or to persuade her to stay. But when the mothers who had been instructed to leave did in fact leave without responding to the child's efforts to negotiate, the child cried angrily, and upon reunion was angrily fussy and made outrageous demands. This disturbance Marvin attributed more to the frustration of the child's efforts to negotiate than to separation distress.

Our conception of the criteria for a secure versus an anxious attachment are affected by Marvin's research. To be sure, it still seems important for the mother to be perceived as accessible and responsive, but, to make a four-

year-old feel securely attached to his mother, responsiveness must be extended to being willing to listen to what he says about his viewpoint and being able to communicate to him enough of her own viewpoint as relevant to this that he is content that she is willing to negotiate differences so that they can agree on a mutually acceptable plan. In short, in a secure attachment each partner feels that he understands the other and is understood. Even though the child is cognitively capable of communication and perspective-taking, his attachment will be anxious if the parent, for whatever reason, is unable to take his perspective at least most of the time.

Marvin[4] proposed a new classificatory system for the strange-situation behavior of three- and four-year-olds—one that focused on the nature of the interaction of child with mother in the reunion episodes, rather than on proximity- and contact-seeking behavior. However, in this cross-sectional study of different age groups, he could not ascertain the extent to which his new system for assessing attachment pattern would yield the same classifications as mine would have done when the same children were one-year-olds. However, now that more research attention is being given to the transition between infancy and childhood, other researchers[8] are interesting themselves in Marvin's proposal.

Waters and Deane[9] have devised a Q-sort basis of rating security versus insecurity of attachment that can be used either by observers (or parents) in the home or by observers or teachers in preschool. This procedure promises to be appropriate for older preschool children as well as one-year-olds, and thus could provide a much needed alternative or supplement to the strange-situation procedure.

However, so far the only assessment procedure that has been validated by relating its findings to strange-situation assessments at one year is that developed by Main and Cassidy.[10,11] A sample of children whose quality of attachment to both mother and to father had been assessed as one-year-olds was selected for a complex follow-up study when they were about six years of age. The procedure included an hour long separation from parents while the latter were being separately interviewed and while the child was engaged in various activities with a female examiner. At the end of the session first one parent and then three minutes later the other parent returned to the playroom, and the child's reunion with each of them was recorded.

Several patterns of attachment were identified on the basis of the child's reunion behavior, and these showed a strong degree of association with the one-year assessments, at least in the case of attachment to the mother. The *secure* pattern was characterized by a seemingly casual but comfortable re-

union in which the child responded to and elaborated on the parent's conversational initiatives and/or easily took the initiative herself. The child tended to orient face and body to the parent, casually to gravitate toward the parent, and also usually to have at least transitory physical contact such as placing a hand on the parent's shoulder, in general giving a low-key demonstration of comfortable intimacy. The *insecure/avoidant* pattern was characterized by a polite greeting, but by perfunctory response to parental conversational initiatives so that conversational exchange was turned off. Further, there was an unobtrusive drifting farther away from the parent, and orienting face and/or body away. There was no one pattern characteristic of those who had earlier been *insecure but not avoidant*. Instead, three alternative patterns were identified, details of which cannot be given here: a punitive pattern, a disorganized pattern and a caregiving pattern implying role reversal.

Main and her associates[11] reported that security-insecurity of children's attachments at one and at six years of age is highly correlated ($r=0.76$) in the case of the mother, whereas for the father it was relatively weakly correlated ($r=0.30$). This finding suggests that quality of attachment to mother tends strongly to remain stable over the whole of the preschool period, whereas quality of attachment to father has only a weak tendency to remain stable.

Jude Cassidy,[12] with a new sample of six-year-olds (who had not been assessed earlier), used the same procedure to assess the quality of the child's attachment to mother and compare it to the child's concept of self, testing Bowlby's hypothesis that a child's working model of the self would be related to his working model of his principal attachment figure. She used a variety of observations and tests to assess the self-concept, including some relying on self-report. Whereas the children who were securely attached to mother emerged as having a clear sense of self-worth and competence overall, they nevertheless, when pushed, tended to acknowledge imperfections. In contrast, the anxious/avoidant children portrayed themselves as perfect in all self-report assessments, and steadfastly denied the possibility of any shortcoming. Yet their behavior in the context of other tasks betrayed much anxiety and disturbance. It seemed that they were defensively sustaining an idealized working model of self which may have matched an idealized working model of the mother (which was not tested for), but was distinctly at variance with the kind of interactional experience with the mother that earlier research on mother-avoidant infants would lead us to infer. The insecure but nonavoidant children, without the defenses of the avoidant children, presented themselves as lacking in a sense of self-worth and competence throughout

all assessments.

Research into attachment relationships of school-age children, adolescents and adults has been held back until recently through lack of procedures for assessing attachment. To be sure, there are various clinical studies, some of them reported in Bowlby's volumes on separation[13] and loss[14] that suggest that the nature of a person's past and present attachment to parents is relevant both to patterns of psychopathology and to responses to high stress such as death of a parent or spouse. Recently, however, Mary Main and her associates[15] devised an Adult Attachment Inventory that seems very promising as an instrument for investigating attachment relationships in adults. Although the focus of the interview is on past and present relationships with parents, Main herself suggests that what is assessed is the person's representational model of relationships—a model stemming from the representational models of early attachment figures, but more or less transformed by experiences throughout the intervening years, and by the fact that the adult's capacity for formal operational thinking enables him to rework his earlier models and to combine them into a model of relationships in general.

The interview is semistructured with "probes for descriptions of relationships, specific supportive memories, contradictory memories, assessments of relationships."[11] The categories of attachment patterns[16] derived from the interview do not take its manifest content at face value. Rather, attention is paid to failure to remember early childhood discrepancies and incoherency. Very briefly, three main patterns of attachment were identified: autonomous, detached, and enmeshed—together with a number of subpatterns which cannot concern us here.

Those who are *detached* "dismiss, devalue or are cut-off from attachment relationships and experiences." They can remember little, and especially seem unable to re-evoke the feelings associated with the episodes they do recall. They tend to offer an idealized picture of parent or parents, but in response to probes may recall episodes that quite contradict this picture, and which usually imply lack of closeness or outright rejection. They present themselves as strong, independent people for whom closeness and attachment mean little. It may be hypothesized that they have two conflicting sets of representational models of relationships, one the dominant idealized model and another model that is not consciously accessible to them based on real experiences of rejection and lack of closeness. The defensive flavor of the detached pattern is reminiscent of the anxious/avoidant pattern of young children. Indeed, there seems to be a cross-generational effect, for the child of a detached parent tends to be anxious and avoidant in attachment to that par-

ent. The detached pattern also reminds one of Winnicott's[17] "false self" and of the compulsively self-reliant pattern described by Bowlby[14]—a brittle pattern that may well break down under severe stress.

The *autonomous* pattern is considered by Main to be the secure pattern, for those manifesting it value attachment relationships and regard attachment-related experiences as influential in their development, but they are self-reliant, objective and nondefensive. There seem to be two main routes to this kind of pattern in adulthood—either a childhood that was clearly secure or evidence of a reworking of models of early insecure relationships resulting in acceptance and understanding of them, making possible a present balanced view of relationships. Parents who show an autonomous pattern tend to rear infants to be securely attached to them.

Finally, there is the *enmeshed* pattern, which Main describes as "confused, incoherent, and unobjective regarding relationships and their influences; passive and vague; fearful and caught or angry, conflicted and unconvincingly analytical." Adults are labeled as enmeshed because of their "seeming inability to move beyond a sense of self as enmeshed in early relationships." They tend to rear infants who are insecurely attached to them, but without a strong avoidant defense.

The chief validation of these patterns that Main has so far offered is a comparison of the parental pattern and the pattern of the infant's attachment. I have already alluded to the general findings of the comparison with infant attachment patterns as one-year-olds. There is also a comparison reported by Main and her associates[11] of the parent's pattern with his child's pattern assessed in the six-year follow-up study. The security of the mother's representational model of attachment was found to be strongly correlated with the security of the child's attachment to her ($r = 0.62$). The comparable correlation for fathers was weaker but nonetheless significant ($r = 0.37$).

Although it is obviously too soon for further validation studies of the Adult Attachment Interview to have appeared, I can report on the research of Roger Kobak,[18] who employed the interview to assess quality of attachment to parents and to relate it to the kind of adjustment that young adults made during their first year at college and away from home. He found that those who were autonomous, that is, securely attached to parents, made the best social adjustment to new-found friends and acquaintances in college on the basis both of several self-report inventories and from independent ratings made by acquaintances using the Block adjustment Q-set.[19] In comparison with the insecure students, they were rated as more insightful and self-confident, less vulnerable and with less negative affect and more social presence. Those

who were identified as being insecure and enmeshed in attachment to parents perceived themselves as less socially competent, and were rated by acquaintances as having less insight, social relatedness and social presence, as having more negative affect and as being less self-confident and more vulnerable.

The detached students were particularly interesting. Except for reporting less support from family, they did not differ from the secure students in their response to the self-report inventories. From what *they* said there was nothing amiss with their social adjustment, but the ratings from *peers* told a different story. They were rated as significantly less well socially adjusted than even the enmeshed group, and especially as having less insight and more negative affect. The detailed findings, which I can only summarize here, make it clear that their detached defense makes them less socially perceptive and responsive and generally more cut-off from positive relations with their peers.

Kobak's findings with young adults are reminiscent of Cassidy's findings that anxious/avoidant six-year-olds defensively report themselves as being without flaw. They are also reminiscent of findings reported by Julia Green,[20] who found that the mothers of anxious/avoidant one-year-olds reported themselves on Abidin's Parenting Stress Index[21] as experiencing low stress, whereas the mothers of securely attached infants tended to report at least moderate stress. These studies attest to the strength of the defensiveness of those with avoidant or detached patterns of attachment. There is clearly a caveat here for future research, namely, do not take at its face value a person's self reports of security, high self-esteem, high sense of competence or freedom from stress and anxiety, even though more credence may be given to self-reports of insecurity, low self esteem, feelings of incompetence and stress.

Obviously, systematic research into adults' continuing attachment to parents has scarcely begun, and what has been accomplished so far perhaps tells us more about its effect on other relationships (e.g., with their children and with their friends) than about the ways in which child-parent attachments change over time. Thus, for example, we do not know to what extent parents and their adult children can enter into a symmetrical relationship in which each in some ways and at some times views the other as stronger and wiser so that each gains security in the relationship and each gives care to the other, or that the old dispositions for the parents to continue to feel themselves and/or to be viewed as stronger and wiser continue to persist. We are convinced that it smacks of malfunction for the parents of a young child to at-

tempt to reverse roles and to seek care, support and security from the child. Although we suspect that some role reversal of this sort might be healthy when a parent becomes aged or handicapped, we have no firm evidence of this from research. We have good reason to suspect from research so far, however, that although other affectional bonds may be and usually are formed in the course of childhood, adolescence and adulthood, humans continue to be attached to their parents, whether these attachments are secure, anxious or defensively cut-off.

Nor have we mentioned a child's relationships with parent surrogates to whom he may become attached and who may play an important role in his life, especially for those who find in them the security that they sought but could not attain with their own parents. I have thought of older siblings or other relatives, youth leaders, athletic coaches and perhaps a special teacher as potential attachment figures well worth research, and with older individuals there are others who may indeed be attachment figures cast in the parental mold, such as mentors, priests, pastors and therapists, who, in inspiring trust, may provide a secure base from which the person may gain confidence to explore and reassess his working model of relationships and, equally important, his working model of himself.

Other Affectional Bonds Throughout the Life Span

Nearly all human beings, I believe, form at least a few affectional bonds with others in the course of their life. Some of these may be identifiable as attachments, some as having attachment components, whereas others may not resemble attachments in some critical way. However, all of this is a matter of how one defines an "affectional bond" and how one defines an "attachment." Let me attempt to define "affectional bond." It is a relatively long-lived tie in which the partner is important as a unique individual, interchangeable with none other, from whom inexplicable, involuntary separation would cause distress, and whose loss would occasion grief. Thus, it is to be distinguished from other long-term relationships in which it is the *role* of the other that is significant, so that with separation or loss there would be at most some regret, tempered by an expectation of soon finding another to play the same role in one's life—as when, for example, a congenial member of a bridge four moves elsewhere but is replaced by another, or a congenial colleague leaves to take another position.

An "attachment" is an affectional bond, and hence attachment figures are never wholly interchangeable with or replaceable by another, even though there be another to whom one is also attached. Other criteria of attachments

are also shared by affectional bonds—a desire to maintain closeness to the partner as well as a need to keep proximity to him. Even though in older children and adults that closeness can to some extent be sustained over time and distance, nevertheless there is at least an intermittent desire to reestablish proximity and interaction and pleasure, indeed often joy, in reunion. There is a third criterion of attachment that is clearly characteristic of some bonds, notably those of children to parents, which some consider to be essential and to distinguish attachments from other affectional bonds.[22,23] This is the experience of comfort and security in relationship to the other and yet the ability to move off from this secure base with confidence to engage in other activities, but since not all attachments are secure this should be modified to imply *seeking* to find comfort and security in the other.

Hinde[24] pointed out that the nature of a relationship between two individuals grows out of the total history of their interaction. This interaction is likely to be varied, and may involve a number of categories of content. Thus, each relationship is likely to have a number of components, and it is useful to bear this in mind, because some of these may be irrelevant to whatever makes for an affectional bond, even though they contribute to the uniqueness of that particular relationship. Thus, an infant may interact with his mother as caregiver, as playmate and/or as teacher. All these facets characterize that particular relationship, but perhaps only one of them—the caregiving component—is directly related to the protective function believed to have been responsible for attachment having evolved.

Weiss[25] suggested that different classes of relationship offer different provisions. He identified six categories of relational provisions. 1) Attachment relationships provide a sense of security and place: in their absence we feel restless and lonely. 2) Other relationships in a social network provide a shared interpretation of experience and a source of companionship. 3) Caregiving relationships offer a sense of being needed, an opportunity for giving nurturance. 4) Other relationships provide the individual with a sense of worth and/or competence, for example, colleagues for some, families for others. 5) Kin especially give a sense of reliable alliance and the possibility of continuing assistance if needed. 6) Still other relationships are important, especially in stressful situations, because they provide guidance—as in a relationship with a mentor.

The point I am trying to make is that a relationship or a class of relationships may be important to an individual without implying either an affectional bond in general or an attachment in particular. Nevertheless, affectional bonds are likely to be the most important in a person's social network,

even though one cannot deny that others in the social network play a significant part. Thus, Weiss[22] compared loneliness with a sense of isolation, specifying that loneliness is experienced when an attachment figure is absent but yearned for as in persons who have recently ended marriages and have not yet found a new partner, whereas isolation is experienced, for example, when one moves into a new community away from kin, friends and colleagues. When one is lonely, friends do not fill the gap, even though they may make loneliness easier to bear. When one is isolated, even the presence of a spouse with whom one has a good relationship does not altogether make up for feeling without a sense of belonging to a community.

Another way of viewing affectional bonds is to focus on those that are species-characteristic, and may be assumed to have evolved because they forwarded some important facet of survival function. Thus Bowlby[2] implied that those involving either the reproductive system and/or the caregiving and attachment systems deserved particular attention. We have already considered the bond of child to parent, which involves the attachment system. I intend to proceed by examining the bond of parent to child which involves the caregiving system, then sexual pair bonds, which involve the reproductive system and then other types of bonds which may or not have survival function. Throughout all of this I shall keep in mind what Hinde and Weiss have to say about the various components and provisions of relationships.

The bond of mother to infant. Thanks to the work of Marshall Klaus and John Kennell,[26] the bond of mother to infant has received much attention. There are those[23] who would not characterize this bond as an attachment because a mother does not normally rely on her infant as a source of security or use him as a secure base from which to move off into other activities. Nevertheless, the bond does involve the mother being alert to keep proximity to her infant, distress upon separation and undoubted grief at loss.

Klaus, Kennell and their colleagues have highlighted the phenomenon of delight and intimacy manifested by a mother who has a period immediately postpartum to hold her baby with skin-to-skin contact and to interact with him. They have marshalled evidence that suggests that mothers who had this sort of experience turned out to have better maternal-care attitudes and practices than those who had the usual hospital-delivery experience, that their children developed better and tended to have fewer later indications of difficulty. At first, beguiled by the ethologic literature, they proposed that there was a critical period immediately after birth during which contact with the baby effected the bonding, thus inadvertently implying that in the absence of such experience bonding could not take place.

The impact of their studies has been great indeed, having led to a revolution in obstetrical ward practices that has perhaps been long overdue. On the other hand, there was a well-grounded protest that many mothers do indeed become "bonded" to their infants in the absence of the opportunity for immediate postpartum contact, a fact which Klaus and Kennell were ready to acknowledge, although they continued to assert that close postpartum experiences can and usually do facilitate bonding.

There is much in the animal research literature backing up their original propositon of a critical period. There are species in which a mother, if separated from her infant for a brief period immediately postpartum, subsequently rejects it, whereas even a short period with the infant following delivery seems to facilitate rapid bonding so that later separation does not lead to rejection. Rosenblatt's[27] research into maternal behavior in the rat suggests that the most potent factor in evoking and sustaining maternal behavior is the presence, appearance and behavior of the young themselves, and that the capacity for behaving maternally wanes rapidly if the young are removed; even though the period of separation is brief, it is difficult to reinstate maternal behavior at its previous level of effectiveness. Such evidence is not to be shrugged off. Anecdotal and clinical evidence alike suggest that some mothers who are separated from their babies soon after birth and not reunited with them until substantially later do indeed have difficulty in experiencing the same tenderness and commitment as others do who have not had such experiences.

Nonetheless, in humans we must reckon with representational models. Some women undoubtedly have formed a representational model of themselves in relation to an infant even perhaps long before an infant is conceived, maybe on the basis of their previous experience with their siblings or other infants. (And, from animal studies, again there is reason to believe that previous experience with infants makes for better mothering.) Such women are "primed" to bond to their infants, even under difficult circumstances.

What are the criteria that a mother has indeed become bonded to her baby? Klaus and Kennell[26] suggest criteria, but these emerge as essentially the same as my description of a responsive and accessible mother who is likely to foster the development of a secure attachment in her baby. Not all babies become securely attached to their mothers, and certainly not all mothers who become bonded to their babies approximate the suggested criteria. Thus, as Crittenden[28] makes clear, mothers who maltreat their children desperately want to keep them from being removed to foster homes. They are bonded in their own ways—ways that we do not yet know how to identify before

the threat of separation intrudes.

The bond of father to child. Despite the rich testimony from history and literature that fathers can have extraordinary commitment to their offspring, the tendency has been to consider the bond of father to child as somehow less deeply rooted than the bond of mother to child. During the last decade or so, however, there has been an active research interest in father-infant interaction,[29-31] which suggests that fathers can and sometimes do perform excellently in a caregiving role. Presumably, they become bonded to their infants as their infants become attached to them.

Does paternal behavior have the same kind of biological underpinning as has maternal behavior? Consideration of other species is instructive. In a number of species of birds and mammals paternal sharing in the care of offspring is clearly built in, and in a few nonhuman primate species with clear sexual pair-bonding the same is the case, but with other primate species—who happen to be those most extensively studied in the field, such as baboons, macaque monkeys and chimpanzees—it has been generally assumed that mating was promiscuous and that males tended to play at best an indirect role in protecting the young, namely, through fending off predators that threatened the troop generally. However, Barbara Smuts[32,33] reports long-term male-female companionships—she calls them "special relationships"—in which the partners seek to be together, and indeed sleep together, and in which the male is active in protecting the female and her offspring who may be threatened by some other member of the troop or other danger. The male, himself, is likely to achieve greater reproductive success through such a relationship, either because he has indeed sired the infant whom he thus protects directly or indirectly or because the female is more likely to mate with him when she comes into oestrus.

Even in species that are conspicuous for the absence of paternal behavior toward the young, such as the rat, caregiving behavior can be induced under certain conditions. Thus, Rosenblatt[27] demonstrated that a male rat will manifest behavior essentially like maternal behavior if he is confined in the company of newborn rat pups for a long enough period of time. He eventually retrieves pups who have strayed from the nest, tidies up the nest material if it has become scattered and even squats over the pups as though to feed them. This suggests that caregiving behavior may be built into even the male of the species, although it is less readily evoked than in the female. Although it is unjustifed to make a direct extrapolation from rats to humans, it nevertheless seems likely to me that when custom or circumstances en-

sure that a human male has exposure to offspring, he may well become a caregiver.

Obviously, individual differences in male and female roles and commitments in our society are indeed great. Whereas in some families the father may devote much time and attention to his young children, in others he may spend so little time with them that he scarcely has a chance to become bonded to them or they to him. Further, as Lamb points out, the role the father plays may differ from the caregiving role of the mother. He suggests that fathers may function more as playmates than as caregivers—in which case, according to Bowlby,[2] one might expect that the child would be more attached to the mother, even through he preferred the father as playmate. However, as Parke[30] has shown, the father is capable of effective caregiving when indeed he undertakes to be responsible for it.

Most of the recent flurry of research into fathers' interaction with their infants has obviously been conducted on samples in which fathers were particularly interested in such interaction. We need much more representative samples of families before we can achieve a clearer picture of the range of possibilities of paternal involvement in our society.

Sexual pair-bonding. Three major behavioral systems are involved in forming and maintaining sexual pair-bonding: the reproductive or mating system; the caregiving system, which is involved in two ways—giving care to the partner and sharing with the partner caregiving to the young and the attachment system. Let us consider each of these in turn.

Sexual pair-bonding is not characteristic of all species. The reproductive system may achieve its functional outcome without an enduring bond between the partners ensuing. In species in which pair bonding does occur, the caregiving system seems to be involved, with the male concerned with the care and protection of offspring directly or indirectly through care and protection of his mate, or both. In the human case it is obvious that mating can occur without a bond ensuing, but on the other hand various human societies tend to foster enduring bonds through marriage customs—whether monogamous or polygynous—thus backing up biological predispositions to ensure that young are cared for and not merely produced. In the course of a long-term sexual relationship, whether in customary marriage or not, an attachment relationship tends also to be built up, the attachment and caregiving components interacting to make for a reciprocal give-and-take relationship. Typically, each partner at some times and in some ways looks to the other as stronger and wiser, and the other reciprocates by providing care, comfort, reassurance and thus feelings of security.

Although sexual attraction may be the most important component at the

start of a relationship, those that depend entirely on the sexual component are likely to be short-lived. As the relationship persists, the caregiving and attachment components are likely to become relatively more important and may sustain the relationship even though sexual interest has waned.

Much of the research into human sexual pair-bonds has focused on the break-up of the relationship—with marital separation and/or divorce and adjustment afterwards.[34-36] It is clear that the attachment component is particularly long-lasting, tending to persist long after the pair has been parted, and even when the parting was much desired. There is a tendency to miss the partner and to feel lonely. Studies of battered wives also are instructive. Even though the wife may seek shelter from her abusing husband, she is unlikely to prefer charges against him because she cannot bear to hurt him in this way, and more often than not she returns to him becasuse her security is vested in him in one way or another. If the attachment component of the relationship is anxious and ambivalent—or, if you like, enmeshed—this does not imply that the bond is weak or fragile. Representational models of self and partner, consolidated in a long period of intimacy and perhaps also influenced by models of parent and self carried over from childhood, may well tenaciously resist revision.

In some marriages caregiving and attachment components may not be symmetrical and reciprocal as I have described, but rather complementary, as in the relationship between parent and child, in which one partner is primarily the child who seeks security in the other who is viewed as stronger and wiser, whereas the other partner is primarily the caregiver whose satisfaction comes through being needed. Such relationships may not be ideally secure, but they may nevertheless be enduring. However, in many marriages there are components other than the three fundamental biologically based components that I have emphasized so far. Spouses may be professional or business partners, or they may spend more than the usual time together because they enjoy sharing the same leisure time interests and activities. All of the provisions that Weiss[25] specified for varied relationships may be found in the relationship with the partner in a marriage or quasimarriage and may or may not contribute to its persistence over time.

Indeed, bonds similar to heterosexual pair bonds may be formed with same-sex partners, despite the fact that the sexual component cannot fulfill its biological function of reproduction. They may be more difficult to sustain, however, for they usually do not involve shared responsibility for the care of children, which may hold a weakening marriage together, and the partners may well experience social custom as a divisive influence rather than, as in the case of marriage, as a force supporting continuation of the

bond.

Friends, companions and intimates. Friendship can connote a wide range of relationships, covering relations with acquaintances with whom one has occasional pleasant interaction, relations with congenial companions with whom one spends quite a lot of time in activities of mutual concern or interest and close and intimate relations with a few particularly valued individuals whose company one seeks, even though intermittently, despite difficulties imposed by distance or competing demands on one's attention. It seems likely that some of these relationships are sufficiently close and enduring to be characterized as affectional bonds in which the partner in the relationship is felt to be uniquely valued person, not interchangeable with anyone else who might play a similar role.

Weiss[22] suggested that such bonds often exist between army buddies, and that they may be accurately labeled as attachments. The partners seek proximity to each other; they give care and protection to each other: each feels more secure when with the other; separation or threat of separation occasions anxiety, and loss would certainly cause grief. That such a relationship is likely to be fostered under hazardous conditions seems entirely reasonable. As Bowlby[13] pointed out, the presence of a trusted companion under hazardous conditions tends to reduce fear, and actually to lessen the chances of coming to harm. Indeed, he argued that in general the presence of companions enhances the chances of survival. Certainly, mountain climbers seek companions in their enterprises, and we are all cautioned never to go swimming alone.

In all social species that have been observed in their natural environment it is clear that the group itself performs a protective function for the individuals that comprise it. A study of predators and their prey suggests that those who stray from the group are most likely to become victims. In many social species it is clear that in at least some activities, such as hunting, cooperative enterprise is most successful. It seems possible that companionship in such enterprises may lead to social bonds between pairs of companions. And it seems possible that once a bond with a trusted companion has been consolidated, the bond continues in contexts other than the one that brought it into being. However, in present day human society, most friendships are formed in other than adventurous or hazardous contexts. Many are short lived or entirely context-specific whereas others endure despite circumstances that make proximity-keeping difficult. We can attribute this enduring quality to the capacity of humans to form representational models of another and of themselves in relation to the other, and thus to be able to sustain

a bond across time and distance. But this does not help us understand how it is that some relationships achieve this transcendent quality whereas others do not.

Following closely on the heels of research into the attachment of young children to their parents, there was an upsurge of research into young children's relations with peers. Many of these studies have been laboratory studies in which, either to control conditions or for sheer convenience, infants or young children have been observed in interaction with peers who are unfamiliar to them, that is, not friends, at least not yet friends. However, there is one study of children's friendships that I particularly want to mention.

James Youniss[37] conducted studies in which children of different ages were interviewed about friendships and asked "What is a friend?" and "What is a best friend?" and the like. Those between six and eight years of age tended to focus on playmate relationships and sharing, with the best friend distinguished from a mere friend in quantitative terms, e.g., play together all the time, share everything. Children in the nine-to-eleven-year range tended to give more attention to the help that friends could give to each other and to being able to depend on that kind of help, including giving companionship when one is lonely. This begins to smack of the kind of reciprocity implicit in the goal-corrected partnership phase of attachment development. Children in the twelve-to fourteen-year range of age emphasized even more clearly facets of a goal-corrected partnership—mutual understanding and trust. Friendship, to them, is a symmetrical relationship with cooperative reciprocity and trust, in which one can reveal one's feelings, negotiate differences and feel understood. However, they also stressed that recognition of congeniality of interests and activities was important in beginning and maintaining a friendship: a feature that enhances any relationship but which is not considered a fundamental criterion of attachment. All groups implied that the major difference between a best friend and a mere friend lay in the frequency with which proximity is sought.

In view of the fact that children tend to develop the perspective-taking and communicative abilities that enable them to establish goal-corrected partnerships with attachment figures when they are four years old or thereabouts, it seems odd that the friendships of the six- to eight-year olds emphasized the playmate relationship rather than implying more of the mutual trust and understanding of the goal-corrected partnership. Perhaps this is due at least in part to inability to be verbally articulate about something as subtle as mutual understanding and expression of feelings. As Mary Main[16] implies,

it is perhaps only when one is old enough to be capable of "formal operations" and thus to be able to think about relationships and to assess one's representational models of relationships that one can in interviews actually put into words feelings and attitudes that have been implicit throughout a much earlier time-span. In any event, I would propose that at least some close friendships involve enduring affectional bonds and that these have an attachment component. On the other hand, Youniss's child subjects did indicate that friendships were likely to come to an end when diverging interests drew the partners apart and/or when one partner found a new friend whose interests were more congenial than his best friend's continued to be. And yet some early friendships do persist over many years, and are valued despite circumstances that preclude literal proximity keeping. In such cases the capacity of the adolescent and adult to depend on representational models to sustain relationships seem to be responsible for the friendship enduring and for the undeniable fact that such friends can pick up the threads after long and untroubled absences, and still feel that they can depend on the other for understanding and reassurance and even help when needed.

Siblings and other kin. Older siblings may on occasion and/or to some extent play a parental, caregiving role with one or more of their younger siblings, and thus may become subsidiary attachment figures for them. When two or more siblings are separated from their principal attachment figure and cared for in the same institutional setting, the distress of each may be somewhat diminished by the presence of and interaction with the other.[38] When a child's parent dies, his feelings of grief and abandonment may be alleviated by the care he receives from an older sibling, and the older sibling tends to assume a protective, caregiving role. Indeed, this role may actually help the older sibling to feel more secure himself, whether because caregiving makes him feel less helpless or because it diverts him from his own feelings of distress or grief. Further, in many societies (and in some families in our own society) it is common to expect older siblings to assume some responsibility as caregivers to their young brothers or sisters quite outside the context of loss or major separation.[39,40] However, there has been little systematic research into siblings as attachment figures.

Among the few studies that have been done is one by Stewart,[41] who reported that approximately half of his sample of three- and four-year-old children acted to provide reassurance, comfort and care to their younger siblings when their mothers left them alone together in a waiting room setting. He confirmed this finding in a later study[42] in which the siblings' separation from the mother took place in a modified "strange situation." Whether the older sibling displayed caregiving behavior to the younger was found

to be strongly related to the former's conceptual perspective-taking ability, that is, to his ability to understand how the other perceived and affectively appraised the situation—and that this in turn was related to the younger sibling's use of the older as a secure base from which to explore the unfamiliar situation. This study suggests that even a child of preschool age may serve as a parent surrogate and subsidiary attachment figure to a younger sibling.

Siblings close in age may also be playmates, especially when both are beyond infancy, and some of these may become friends, perhaps best friends, with the same sort of symmetrical, cooperative, reciprocal, mutually trusting relationship that was earlier described as characteristic of close friendships. This implies a secure attachment component to such sibling friendship relationships.

On the other hand, many sibling relationships are characterized by ambivalent feelings rather than mutual cooperation and trust, and yet are likely to constitute lasting affectional bonds. Whereas friends who have once been close may drift apart as their interests shift and they become less congenial, bonds with kin tend to be much more persistent, even though they may be more ambivalent. One may account for the longevity of kinship bonds in various ways–sociological, biological and psychological.

Cultural practices tend to regulate relations among kin in such a way as to foster in the individual a sense that he can rely on kin as allies or for substantial help and support if needed—as Weiss[25] implied. Indeed, many people feel that they can ask material help from kin that they would hesitate to seek from friends, no matter how close and congenial; in turn, they tend to feel morally obliged to provide such help to kin when it is demanded. Such attitudes make kin especially important in a person's social network.

The biological explanation is based on the principle that the key dynamic of evolution is neither individual survival nor even species survival but gene survival. Thus, an individual organism—a parent—who shares half of its genes with each of its offspring promotes the survival of its genes by promoting the welfare of its offspring, and in this regard stands more to gain than by promoting the welfare of others who are either more distantly related or not related at all. According to this argument, siblings, who also share a relatively large proportion of genes, tend to promote the survival of their genes by promoting each other's welfare (and thus survival) and so on, to a lesser extent, with kin less closely related.

Another more psychological explanation of kinship bonds rests on a shared background of experience within the family or other kinship group. Thus, despite current differences in activities and interests and despite rivalries or other causes of ambivalence, siblings have a certain background of shared

experience which not only promotes similarities in their perception of situations and in value systems that influence their decisions, but also promotes mutual understanding without necessarily requiring an extensive history of mutual communication—and by extension this is true to some extent also with kin less closely related. With a shared common background, much can go without saying and without striving toward articulate communication.

The sharing of experience not only is important in kinship bonds, but perhaps is an influence in all affectional bonds that are expecially lasting. In enduring marriages surely shared experiences are pleasant to talk about and connote a basis of mutual understanding that in turn contributes to security and mutual trust. Even after a husband and wife have agreed to divorce, they may still find themselves tied by a long history of shared experience and find pleasure in it, despite mutual hostility, divergent aims, disparate interests, and/or new bonds that compete with the old. Like congeniality of interests and activities, shared experience contributes to the basis of friendships and to the feelings of understanding and being understood that are so focal to close friendships. Especially if the shared experience is particularly salient to the partners and alien to the experience of others, it alone may make for a bond. For example, Peace Corps volunteers who have had a whole set of preconceived notions revised by immersion in an unfamiliar society may on return home experience "culture shock." Finding it difficult to communicate their new experiences to relatives and old friends, they feel a loss of the mutual understanding that sustained these previous relationships; they feel particularly drawn toward others who either were companions in the Peace Corps or who share similar but separate experiences, finding in them the feelings of understanding and being understood that no longer characterize their earlier close relationships. Similarly, war veterans may feel alienated from partners in previous relationships, but comfortable with companions who shared the same or similar experiences.

Conclusion

There has been much concern recently in both clinical and academic circles about the significance of a person's social network and/or his social support system. These are considered to be of great moment as factors either strengthening a person's resistance to physical disease, emotional disorder or social misfit, whereas the lack of adequate network or support is considered to increase the person's vulnerability to such disorders or even to be an etiological factor leading to them. Although these views are gener-

ally valid, they constitute a gross oversimplification, in my opinion. I hold that the most important elements in social networks and social support systems alike are relationships that constitute affectional bonds, and particularly those with attachment components that provide a sense of security.

It is my belief that attachment theory and the research that has stemmed from it has already yielded important clinical applications. Obviously, such research, although well begun, has yet a long way to go if it is to investigate the rich complex of attachments and other affectional bonds in human society. It is my hope that this report of research that has been accomplished and my speculations about relationships that still need much more research will have kindled in you something akin to the enthusiastic interest I feel when I contemplate the prospect ahead.

REFERENCES

1. Bowlby, J.: *The Making and Breaking of Affectional Bonds*. London, Tavistock, 1979, p. 129. Originally published in *Br. J. Psychiat. 130:* 201-10, 421-31, 1977.
2. Bowlby, J.: *Attachment and Loss,* vol. 1. *Attachment.* New York, Basic Books, 1969, 2nd ed. 1982.
3. Piaget, J.: *The Language and Thought of the Child.* New York, Harcourt, Brace, 1926.
4. Marvin, R.S.: *Attachment and Cooperative Behavior in Two- Three- and Four-Year Olds.* Doctoral dissertation, University of Chicago, 1971.
5. Marvin, R.S.: An Ethological-Cognitive Model for the Attenuation of Mother-Child Attachment Behavior. In: *Advances in the Study of Communication and Affect,* vol. 3, Alloway, T., Pliner, P. and Krames, L., editors. New York. Plenum, 1977, pp. 25-60.
6. Marvin, R.S. and Greenberg, M.T.: Preschoolers' Changing Conceptions of Their Mothers: A Social-Cognitive Study of Mother-Child Attachment. In: *New Directions in Child Development.* Vol. 14. *Developing Plans for Behavior,* Forbes, D. and Greenberg, M.T., editors. San Francisco, Jossey-Bass, 1982, pp. 47-60.
7. Piaget, J. and Inhelder, B.: *The Child's Construction of Space.* London, Routledge and Kegan Paul, 1956.
8. Researchers in the John D. and Catherine T. MacArthur Foundation Network on the Transition from Infancy to Early Childhood, Attachment Workshop Group.
9. Waters, E. and Deane, K.E.: Defining and Assessing Individual Differences in Attachment Relationships: Q-Methodology and the Organization of Behavior in Infancy and Early Childhood. In: *Growing Points in Attachment Theory and Research,* Bretherton, I. and Waters, E., editors. *Monog. Soc. Res. Child Dev.*. In press.
10. Main, M. and Cassidy, J.: *Security of Attachment to Parent at Six Years of Age.* In preparation.
11. Main, M., Kaplan, N. and Cassidy, J.: Security in Infancy, Childhood, and Adulthood: A Move to the Level of Representation. In: *Growing Points in Attachment Theory and Research,* Bretherton, I. and Waters, E., editors. *Monog. Soc. Res. Child Dev.*. In press.
12. Cassidy, J.: *The Self as Related to Attachment in the Sixth Year.* In preparation.
13. Bowlby, J.: *Attachment and Loss.* Vol. 2. *Separation: Anxiety and Anger.* New York, Basic Books, 1973.
14. Bowlby, J.: *Attachment and Loss.* Vol. 3. *Loss: Sadness and Depression.* New York, Basic Books, 1980.
15. George, C., Kaplan, N. and Main, M.: *Adult Attachment Interview.* Unpublished manuscript.

16. Main M. and Goldwyn, R.: *Adult Attachment Classification System.* Unpublished manuscript.
17. Winnicott, D.W.: Ego Distortion in Terms of True and False Self. In: *The Maturational Processes and the Facilitating Environment,* Winnicott, D.W., editor. New York, International Universities Press, 1965, pp. 140-52.
18. Kobak, R.R.: *The Transition to College: Attitudes Toward Attachment and Social Competence.* Unpublished doctoral dissertation, University of Virginia, 1985.
19. Block, J: *The Q-Sort Method of Personality Assessment and Psychiatric Research.* Palo Alto, Consulting Psychologists' Press, 1978.
20. Green, J.H.: *The Relationship of Stress to Infant-Mother Attachment.* Unpublished doctoral dissertation, University of Virginia, 1980.
21. Abidin, R.R.: *The Parenting Stress Index—Manual.* Charlottesville, VA, Pediatric Psychology Press, 1980.
22. Weiss, R.S.: Attachment In Adult Life. In: *The Place of Attachment in Human Behavior,* Parkes, C.M. and Stevenson-Hinde, J., editors. New York, Basic Books, 1982, pp. 171-84.
23. Hinde, R.A.: Attachment: Some Conceptual and Biological Issues. In: *The Place of Attachment in Human Behavior,* Parkes, C.M. and Stevenson-Hinde, J., editors. New York, Basic Books, 1982, pp. 60-70.
24. Hinde, R.A.: On describing relationships. *J. Child Psychol. Psychiat. 17.* 1-19,1976.
25. Weiss, R.S.: The Provisions of Social Relationships. In: *Doing unto Others,* Rubin, Z., editor. Englewood Cliffs, N.J., Prentice-Hall, 1974, pp. 17-26.
26. Klaus, M.H. and Kennell, J.H.: *Maternal-Infant Bonding,* 2nd ed. Saint Louis, Mosby, 1982.
27. Rosenblatt, J.S., Siegel, H.I. and Meyer, A.D.: Progress in the Study of Maternal Behavior in the Rat: Hormonal, Non-hormonal, Sensory, and Developmental Aspects. In: *Advances in the Study of Behavior,* vol. 10, Rosenblatt, J.S., Hinde, R.A., Beer, C., and Busnel, M.C., editors. New York, Academic, 1979, pp. 225-311.
28. Crittenden, P.M.: The effect of mandatory protective daycare on mutual attachment in maltreating mother-infant dyads. *Child Abuse Neglect 7:* 297-300, 1983.
29 .Lamb, M.E.: The Role of the Father: An Overview. In: *The Role of the Father in Child Development,* Lamb, M.E., editor. New York, Wiley, 1976, pp. 1-63.
30. Parke, R.D. and Sawin, D.B.: The father's role in infancy: A re-evaluation. *Family Coord. 25:* 365-377, 1976.
31. Parke, R.D., Power, T.G. Tensley, B.R., and Hymel, S.: The father's role in the family system. *Sem. Perinatol. 3:* 25-34, 1979.
32. Smuts, B.B.: Dynamics of "Special Relationships" Between Adult Male and Female Olive Baboons. In: *Primate Social Relationships,* Hinde, R.A., editor. Oxford, Blackwell, 1983, pp. 112-16.
33. Smuts, B.B.: Special Relationships Between Adult Male and Female Olive Baboons: Selective Advantages. In: *Primate Social Relationships,* Hinde, R.A., editor. Oxford, Blackwell, 1983, pp. 262-66.
34. Weiss, R.S.: *Marital Separation.* New York, Basic Books, 1975.
35. Weiss, R.S.: *Going it Alone.* New York, Basic Books, 1979..
36. Hetherington, E.M., Cox, M. and Cox, R.: Effects of Divorce on Parents and Children. In: *Nontraditional Families,* Lamb, M.E., editor. Hillsdale, N.J., Erlbaum, 1981, pp. 233-88.
37. Youniss, J.: *Parents and Peers in Social Development: A Sullivan-Piaget Perspective.* Chicago, University of Chicago Press, 1980.
38. Heinicke, C.M. and Westheimer, I.: *Brief Separations.* New York, International Universities Press, 1965.
39. Konner, M.J.: Maternal Care, Infant Behavior, and Development Among the !Kung. In: *Kalahari Hunter Gatherers: Studies of the !Kung San and Their Neighbors,* Lee, R.B. and Devore, I., editors, Cambridge, MA, Harvard University Press, 1976.
40. Weisner, T.S. and Gallimore, R.: My brother's keeper: Child and sibling caretaking. *Current Anthropol. 18.* 169-90, 1977.
41. Stewart, R.B.: Sibling attachment relationship: Child-infant interactions in the strange situation. *Dev. Psychol. 19.* 192-99, 1983.
42. Stewart, R.B. and Marvin, R.S.: Sibling relations: The role of conceptual perspective-taking in the ontogeny of sibling caregiving. *Child Dev. 55.* 1322-32, 1984.